What is claimed is:

1. A system for interacting with displays and all devices that use such displays comprised of

a. a display,

b. a sensor or camera,

c. a pointing device that can be registered by the sensor or camera,

d. a method for detecting the pointing device,

e. a method for establishing the mapping between the position of the pointing device and a corresponding location on the display.

2. A system according to claim 1 wherein the sensor or camera, in addition to registering the image of the pointing object, can also register at least one of (i) the image of the display and (ii) the reflection or effect that the pointing device can produce on the display.

3. A system as defined by claim 1 which commands the positioning of a pointing icon on the display.

4. A system according to claim 1 wherein the pointing device is a part of the human body such as a hand or a finger, or an ornament or device worn on the human body such as a glove or thimble.

5. A system according to claim 1 wherein the pointing device is used to point to regions of the display by way of changing its position, attitude, or presentation.

6. A system according to claim 1 wherein the pointing device is used to define a particular point or region on the display.

7. A system according to claim 1 wherein the pointing device is used to define a vector on the plane of the display that indicates a direction and magnitude relative to or with respect to an item on the display or a region of the display.

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8. A system according to claim 3 wherein the pointing icon on the display can be registered by the sensor or camera.

9. A system according to claim 8 which also includes a method for correcting the offsets between (i) the position of the pointing device, or reflection, or effect thereof on the display as observed by the user or by the sensor or the camera, and (ii) the position of the pointer icon on the display.

10. A system as defined by claim 1 which also includes at least one of the following:

a. a method for selecting or highlighting a specific item or icon on the display,

b. a method for activating a specific process, program, or menu item represented on the display, and

c. a method for writing, scribing, drawing, highlighting, annotating, or otherwise producing marks on the display.

11. A method for detecting the pointing device comprising

a. retrieval of data or image from a sensor or camera, and

b. analysis of the data or image from the sensor or camera to locate the pointing device in the data, or locating at least a set of the picture elements in the image that comprise the rendition of the pointing device.

12. A method according to claim 11 wherein the characteristics that distinguish the pointing device from other objects in the data from the

sensor or the image from the camera are known a priori.

13. A method according to claim 11 wherein the characteristics that distinguish the pointing device from other objects in the data from the sensor or the image from the camera are determined based analysis of at least one set of the data acquired from the sensor or one image acquired from the camera.

14. A method according to claim 13 wherein the characteristics that distinguish the pointing device from other objects, whose rendition are present in the data from the sensor or in the image from the camera, is obtained by

a. acquiring at least two sets of data from the sensor or at least two images from the camera, one with the pointing device in view of the sensor or the camera and one without, and

b. comparing the two sets with one another.

15. A method according to claim 11 wherein adjustments or modifications are made to the position, sensitivity, and other settings of the sensor or the camera pursuant the analysis of the data or image retrieved from the sensor or the camera.

16. A method according to claim 11 wherein at least part of the procedures for the method is carried out using at least in part the computing mechanisms available on one or more of the following: the display, or the sensor or camera, or the pointing device, or the device producing the signal shown on the display, or the device producing the pointing icon on the display.

17. A method for establishing the mapping between the set of positions that a pointing device can take and the set of corresponding locations on the display comprising:

a. defining the range of positions that the pointing device can

assume,

b. defining the boundaries of the range of positions that the pointing device can take with geometric representations,

c. transforming the geometric representation of the arrangement of regions on the display so that it fits optimally into the boundaries of the range of positions that the pointing device can take.

18. A method according to claim 17 wherein the range of positions that the pointing device may assume is defined by querying the user to point to a set of points on the display.

19. A method according to claim 18 wherein the range of positions that the pointing device can assume is defined by the boundary contours of the display as they are registered by the sensor or the camera.

20. A method according to claim 19 wherein at least one special display image is used to establish the mapping between the positions that a pointing device can take and a corresponding locations on the display.

21. A method according to claim 17 wherein at least part of the procedures for the method is carried out using at least in part the computing mechanisms available on one or more of the following: the display, or the sensor or camera, or the pointing device, or the device producing the signal shown on the display, or the device producing the pointing icon on the display.

22. A method for detecting the display comprising

a. retrieval of data or image from a sensor or camera, and

b. analysis of the data or image from the sensor or camera to locate the display in the data, or locating at least a set of the picture elements in the image that comprise the rendition of the display in the image.

23. A method according to claim 22 wherein the characteristics that distinguish the display from other objects in the data from the sensor or the image from the camera are known a priori.

24. A method according to claim 22 wherein the characteristics that distinguish the display from other objects in the data from the sensor or the image from the camera are determined based on analysis of at least one set of the data acquired from the sensor or one image acquired from the camera.

25. A method according to claim 22 wherein the display refers to the range of positions that the pointing device can take.

26. A method according to claim 24 wherein the characteristics that distinguish the display from other objects, whose rendition are present in the data from the sensor or in the image from the camera, is obtained by

a. acquiring at least two sets of data from the sensor or at least two images from the camera, one with the display off in view of the sensor or the camera and one with the display on, and

b. comparing the two sets with one another.

27. A method according to claim 22 wherein adjustments or modifications are made to the position, sensitivity, and other settings of the sensor or the camera pursuant the analysis of the data or image retrieved from the sensor or the camera.

28. A method according to claim 22 wherein at least part of the procedures for the method is carried out using at least in part the computing mechanisms available on one or more of the following: the display, or the sensor or camera, or the pointing device, or the device producing the signal shown on the

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